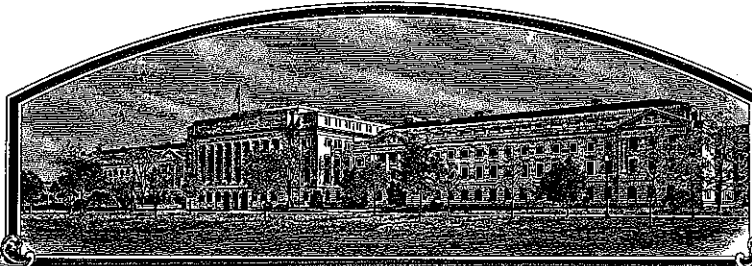


No.

200700273



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Westbred, LLC

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BARLEY

'Stockford'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this seventh day of December, in the year two thousand and seven.

Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER WestBred, LLC		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME BZ 578-227		3. VARIETY NAME stockford	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  81 Timberline Drive Bozeman, MT 59718 USA		5. TELEPHONE (include area code) 406-587-1218		<b>FOR OFFICIAL USE ONLY</b> <b>PVPO NUMBER</b> <b>#200700273</b> <b>FILING DATE</b> <b>April 18, 2007</b>	
		6. FAX (include area code) 406-586-8247			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Limited Liability Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Arizona		9. DATE OF INCORPORATION August 4, 2003	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)  Dr. Dale R. Clark 81 Timberline Drive Bozeman, MT 59718				<b>F E E S R E C E I V E D</b> <b>FILING AND EXAMINATION FEES:</b> \$ 4382.00 <b>DATE</b> 4/18/2007 <b>CERTIFICATION FEE:</b> \$ 768.00 <b>DATE</b> 10/9/07	
11. TELEPHONE (include area code) 406-587-1218		12. FAX (include area code) 406-586-8247		13. E-MAIL dclark@westbred.com	
14. CROP KIND (Common Name) Barley		16. FAMILY NAME (Botanical) Poaceae		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP Hordeum vulgare		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit g. <input checked="" type="checkbox"/> Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) h. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)			
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO USA - April 2007, Canada April 2007 IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Canada Aug 14, 2006 - certificate # 2503 IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)			

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER Dale R. Clark for WestBred, LLC		SIGNATURE OF OWNER	
NAME (Please print or type) Dale R. Clark		NAME (Please print or type)	
CAPACITY OR TITLE Director of Research	DATE April 12, 2007	CAPACITY OR TITLE	DATE

(See reverse for instructions and information collection burden statement)

**GENERAL INSTRUCTIONS:** To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E, F; (3) for a tuber reproduced variety, verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for \$4,382 (\$518 filing fee and \$3,864 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice). **NEW:** With the application for a seed reproduced variety or by direct deposit soon after filing, the applicant must provide at least 3,000 viable untreated seeds of the variety *per se*, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to reproduce the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a payment by credit card or check payable to "Treasurer of the United States" in the amount of \$768 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

**Plant Variety Protection Office**  
**Telephone:** (301) 504-5518 **FAX:** (301) 504-5291  
**General E-mail:** PVP@mail.usda.gov  
**Homepage:** <http://www.ams.usda.gov/science/pvpo/PVPindex.htm>

#200700273

**SPECIFIC INSTRUCTIONS:**

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and **provide evidence** that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, **Seed Regulatory and Testing Branch**, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870. <http://www.ams.usda.gov/lsg/seed.htm>.

**ITEM**

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;  
(2) the details of subsequent stages of selection and multiplication;  
(3) evidence of uniformity and stability; and  
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:  
(1) identify these varieties and state all differences objectively;  
(2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and  
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

**22. CONTINUED FROM FRONT** (Please provide a statement as to the limitation and sequence of generations that may be certified.)

**23. CONTINUED FROM FRONT** (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

**24. CONTINUED FROM FRONT** (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.



Canadian Food  
Inspection Agency

Agence canadienne  
d'inspection des aliments

Canada

#200700273



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## Proactive Disclosure

## Stockford

### (Barley)

**Denomination:**

'Stockford'

**Synonym:**

N/A

**Trade name:**

N/A

**Botanical Name:**

*Hordeum vulgare*

**Applicant/Holder:**

WestBred, LLC  
811 Timberline Drive  
Bozeman, MT  
59718-8184  
United States of America  
Tel: (406) 587-1218  
Fax: (406) 586-8247

**Breeder:**

WestBred, LLC

**Agent in Canada:**

Jim Anderson  
Agricore United  
Crop Research, c/o Westco Site  
11111 Barlow Trail South East  
Calgary, AB  
T2C 4M5  
Canada  
Tel: 403-216-0116  
Fax: 403-216-0121

**Application Date:**

2005-04-20

**Application Number:**

05-4729

**Protective direction granted:**

2005-04-20

**Grant of Rights Date:**

2006-08-14

**Certificate Number:**

2503

**Grant of Rights Termination Date:** 2024-08-14

Date Modified:2007-03-30

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Important Notices

**“Stockford”**  
Spring 2-row Barley

#200700273

19. a. Exhibit A. Origin and Breeding History

Stockford is a two-rowed, hooded hay barley that originated from the cross “Baronesse / BZ 591-57” made by WestBred, LLC near Phoenix, Arizona in March, 1995 and advanced using the standard pedigree method. The line BZ 591-57 is a hooded, six-rowed barley selected from the cross “CCXXXII-32 / Canadian six-rowed varieties // Westford”. The Canadian six-rowed varieties crossed to short male-sterile plants in CCXXXII-32 were BT 527, Deuce, Empress, Leger, Noble, Samson, Virden, and Winchester.

The F1 was grown near Bozeman, MT in 1995 and the F2 seed planted near Bozeman in the spring of 1996. Single spikes were select from the F2 in the fall of 1996 and planted as individual single rows in the spring of 1997. Single spikes were again selected from the F3 rows in September, 1997 and planted as single F4 rows near Yuma, Arizona in the fall of 1997. Single spikes were again selected from the F4 rows near Yuma in April, 1998 and planted as single F5 rows near Bozeman in May, 1998. Several F5 rows from this cross were agronomically acceptable (proper plant height, straw strength and disease tolerant) and were harvested in the fall of 1998. One such row was given the designation BZ 598-227. The F6 thru F10 generations were tested for forage and grain yield and other agronomic traits in WestBred, LLC’s trials in the United States and Agricore United’s trials in Canada from 1999 through 2003. Stockford was tested in the Canadian Forage Barley Coop as FB302 in 2002 and 2003. Stockford was also tested in North Dakota and Montana State University forage trials from 2002 through 2006. Agronomic and quality data are presented in Tables 1 thru 5.

Twelve heads were selected from the F9 generation plots near Bozeman, MT in the fall of 2002. These were planted as F10 head row plots near Yuma, AZ in November, 2002. Six uniform rows were harvested in April, 2003 and planted as individual F11 line rows near Bozeman, MT in May, 2003. Three uniform F11 line rows were harvested and bulked together. One-half of this seed was used to plant a one-quarter acre plot near Yuma, AZ in the fall of 2003, and one-half of this seed was used to plant a one-quarter acre plot near Shouldice, Alberta in May, 2004. The plot near Yuma was harvested in April, 2004 and the plot near Shouldice was harvested in August, 2004. The harvested seed was designated ‘Breeder Seed’. Breeder’s seed was planted in May, 2005 to produce Foundations seed, which was harvested in August,



# **“Stockford”** Spring 2-row Barley

#200700273

2005. Foundation seed was planted in May, 2006 to produce Registered and Certified seed. The first unencumbered sale of Stockford occurred April, 2007.

Variants known to occur are: a six-rowed awned plant at a frequency of up to 4/10,000 plants, a two-rowed awned plant at a frequency of up to 4/10,000 plants and a six-rowed hooded plant at a frequency of up to 2/10,000 plants. Otherwise, no other variants are known to occur and “Stockford” is a stable and uniform variety in appearance and performance over several generations (F5 through F11).

## **19. b. Exhibit B. Statement of Distinctiveness**

Stockford is most similar to the variety Baronesse. However, Baronesse is an awned variety and Stockford is a hooded variety. The hooded variety that Stockford is most similar to is the variety Haybet. However, Haybet has normal lateral spikelet appendages on the spike, and Stockford is deficient for the lateral appendages. These comparisons, along with the complete Objective Description, show Stockford to be a distinct variety of barley.

**Table 1. 2006 Forage Barley Variety Trial - Continuously Cropped – No-till**

**Hettinger, N.D**

Variety	Days to Head	Plant Height Inches	Harvest Moisture %	Crude Protein %	ADF %	NDF %	Ca %	P %	K %	RFV %	Nitrate* %	Yield Tons / acre**				
												2004	2005	2006	2 yr	3yr
Westford	69	24	68	19.7	33.0	56.8	0.43	0.35	3.09	103	0.28	2.15	2.25	2.21	2.23	2.20
Bestford	67	27	70	20.0	28.8	54.3	0.38	0.28	2.32	114	0.50	2.12	2.44	2.03	2.24	2.20
Stockford	68	23	67	19.5	30.9	53.1	0.47	0.29	2.57	114	0.34		3.97	2.33	3.15	
Haybet	68	25	65	17.1	28.7	56.1	0.34	0.30	2.23	110	0.24		3.65	2.33	2.99	
Drummond	62	24	64	19.1	32.6	57.1	0.42	0.29	2.41	103	0.24			1.93		
Trial Mean	67	25	67	19.1	30.8	55.5	0.41	0.30	2.52	109	0.32	2.17	3.09	2.17	--	--
C.V. %	0.5	3.8	--	--	--	--	--	--	--	--	--	11.8	13.8	7.8	--	--
LSD .05	1	1	--	--	--	--	--	--	--	--	--	NS	0.63	0.26	--	--
LSD .01	1	2	--	--	--	--	--	--	--	--	--	NS	0.85	NS	--	--

\* Nitrate levels below 0.44% are considered safe for all livestock. It is recommended that nitrate levels between 0.44% and 0.66% should be limited to 50% total ration for pregnant animals (Penn State recommendations). N fertility was managed for grain production.

\*\* Forage yields reported on a dry matter (DM) basis.

NS = no statistical difference between varieties.

Planting Date: April 17, 2006

Harvest Date: June 26, 2006 (flowering)

Seeding Rate: 750,000 live seeds/acre.

Previous Crop: soybean



WestBred, LLC, 81 Timberline Dr., Bozeman, MT 59718

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200700273

September 26, 2007

Mark A. Hermeling, Senior Plant Variety Examiner  
Plant Variety Protection Office  
NAL BLDG., Room 401  
10301 Baltimore Avenue  
Beltsville, Maryland 20705-2351

SUBJECT: Application No. 200700273, Barley, 'Stockford'

Dear Mr. Hermeling,

In answer to your question regarding 'EXHIBIT A. Origin and Breeding History of the Variety:', I submit the following:

The line: 'CCXXXII-32' should have just read 'CCXXXII'.

Exhibit C. Head type of 'Stockford' should be corrected to "1" where 1=two-rowed and 2=six rowed on the form. Stockford is a two rowed variety.

Following is a description of the original CCXXXII.

Several barley Composite Cross's were developed by Dr. R.T. Ramage, who was a USDA/ARS Barley Geneticist and Cytogeneticist. Dr. R.T. Ramage was stationed at Tucson, Arizona from 1956 until his retirement in the mid 1990's. Composite Cross XXXII was initiated to develop short straw, lodging resistant germplasm that would be distributed to barley breeders around the world. Over a period of about 10 years, several versions of this composite were released and seed was sent to the National Small Grains Germplasm Storage Center at Aberdeen, ID. References for the release of two of these releases, CCXXXII-76 and CCXXXII-78 are – Barley Newsletter, volume 19:9-11, and Barley Newsletter, volume 21:5-6).

Please let me know if you need any further clarification.

Sincerely,

Dale R. Clark, Ph.D.  
Director of Research  
[dclark@westbred.com](mailto:dclark@westbred.com)

**“Stockford”**  
Spring 2-row Barley

Table 2. Yield of Stockford, in tons drymatter per acre, compared to check varieties in Montana State University Trials.

Year	Location	Variety				
		Stockford	Westford	Haybet	Hays	Otana
2001	Moccasin	3.2	2.7	3.6	3.1	-
2002	Bozeman	3.2	3.0	3.2	3.0	2.6
	Corvallis	3.5	3.9	3.5	4.9	3.9
	Kalispell	2.7	2.2	2.2	2.2	2.1
	McSW3	1.7	1.7	1.8	1.8	1.5
	McSE 12a	1.5	1.5	1.7	1.7	0.9
	McSE 12d	1.6	1.3	1.4	1.3	1.5
	Dickensen	<u>1.7</u>	<u>1.7</u>	<u>2.0</u>	<u>2.1</u>	<u>1.7</u>
	mean	2.3	2.2	2.2	2.4	2.0
2003	Corvallis	3.2	2.4	3.2	3.2	2.9
	Kalispell	3.0	3.1	3.2	2.8	2.8
	Moccasin	1.6	1.8	2.0	2.1	1.4
	Huntley Dry	2.4	2.3	2.8	2.5	2.3
	Huntley Irr.	<u>5.3</u>	<u>4.9</u>	<u>5.0</u>	<u>5.2</u>	<u>5.0</u>
	mean	3.1	2.9	3.2	3.2	2.9
2004	Mc-Lupines	2.3	2.3	2.4	2.4	1.9
	Mc-Barley	2.3	1.8	2.0	2.4	1.6
	Corvallis	<u>3.2</u>	<u>3.1</u>	<u>3.3</u>	<u>3.1</u>	<u>3.2</u>
	mean	2.6	2.4	2.6	2.6	2.2
	Grand mean	2.6	2.5	2.7	2.7	2.4





**“Stockford”**  
Spring 2-row Barley

#200700273

Table 3. Heading date of Stockford, in Julian days, compared to check varieties in Montana State University Trials.

Year	Location	Variety				
		Stockford	Westford	Haybet	Hays	Otana (oat)
2001	Moccasin	183	183	182	185	
2002	Kalispell	189	191	190	192	191
	McSE 12d	182	187	184	186	188
	mean	186	189	187	189	190
2003	Corvallis	194	192	189	189	189
	Kalispell	186	187	184	187	186
	Moccasin	185	186	185	189	184
	mean	188	188	186	188	186
2004	Bozeman					
	Mc-Lupines	181	185	182	183	187
	Mc-Barley	183	187	182	183	187
	Corvallis	177	182	180	182	188
	mean	180.3	184.7	181.3	182.7	187.3
	Grand mean	184.4	186.7	184.2	186.2	187.5



**“Stockford”**  
Spring 2-row Barley

Table 4. Plant height, in inches, of Stockford compared to check varieties in Montana State University Trials.

Year	Location	Variety				
		Stockford	Westford	Haybet	Hays	Otana
2001	Moccasin	29	27	34	25	
2002	Bozeman	40	39	39	38	48
	Corvallis	42	39	43	46	46
	Kalispell	28	24	27	20	37
	McSW3	24	24	25	23	30
	McSE 12d	20	22	21	20	28
	Dickensen					
	mean	30.8	29.6	31.0	29.4	37.8
2003	Corvallis	36	34	36	33	41
	Kalispell	26	32	29	23	36
	Huntley Dry	26	28	30	24	35
	Huntley Irr.	42	42	42	35	49
	mean	32.5	34.0	34.3	28.8	40.3
2004	Mc-Lupines	33	38	34	30	31
	Mc-Barley	28	27	27	23	29
	Corvallis	42	39	36	38	36
	mean	34.3	34.7	32.3	30.3	32.0
	Grand mean	32.0	31.9	32.5	29.1	37.2

Table 5. Forage Quality Data for Stockford compared to check varieties in Montana State University Trials. (2003 Moccasin)

Variety	NO3 (ppm)	ADF (%)	NDF (%)	CRUDE PROTEIN	TDN %	NET ENERGY LACTATION Mcal/lb	NET ENERGY MAINTENANCE Mcal/lb	NET ENERGY GAIN Mcal/lb	RFV
Stockford	400	24.0	45.0	11.1	68.0	0.71	0.70	0.46	132
Bestford	1000	24.1	46.2	12.6	67.8	0.70	0.69	0.45	129
Hays	300	25.1	47.4	10.0	66.9	0.69	0.68	0.44	124
Haybet	400	25.8	50.4	10.0	65.9	0.68	0.67	0.43	115
Westford	9300	29.4	51.1	15.6	63.0	0.65	0.63	0.38	111
Otana (oat)	800	24.1	48.0	10.6	68.1	0.71	0.70	0.46	124

TDN = Total Digestible Nutrients  
RFV = Relative Feed Value compared to Alfalfa



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U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705

OBJECTIVE DESCRIPTION OF VARIETY  
Barley (*Hordeum vulgare* L.)

NAME OF APPLICANT (S) <u>West Bred, LLC</u>	TEMPORARY OR EXPERIMENTAL DESIGNATION <u>BZ 598-227</u>	VARIETY NAME <u>Stockford</u>
ADDRESS (Street and No., or RD No., City, State, Zip Code, and Country) <u>81 Timberline Drive</u> <u>Bozeman, MT 59718</u>		PVPO NUMBER <u>#200700273</u>

## PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (i.e.,    or   ) when the number is either 99 or less or 9 or less.

## 1. GROWTH HABIT:

1 = Spring    2 = Facultative Winter    3 = Winter    Early Growth:     1 = Prostrate    2 = Semi-Prostrate    3 = Erect

## 2. MATURITY: (50% Flowering)

1 = Early (California Mariout)    2 = Mid-Season (Betzes)    3 = Late (Frontier)

No. Days Earlier Than Westford \*

Same as Check Baronesse \*

No. of Days Later Than \_\_\_\_\_ \*

## 3. PLANT: (From Soil Level to Top of Head)

1 = Semi-Dwarf    2 = Short (California Mariout)    3 = Medium Tall (Betzes)    4 = Tall (Conquest)

cm Shorter Than \_\_\_\_\_ \*

Same as Check Westford \*

cm Taller Than \_\_\_\_\_ \*

## 4. STEM:

Exsertion (Flag to Spike at Maturity): 1 = (0 - 3 cm)    2 = (3 - 10 cm)    3 = (10 - 15 cm)

Anthocyanin: 1 = Absent    2 = Present

No. of Nodes (Originating from Node Above Ground)

Collar Shape: 1 = Closed    2 = V-Shaped    3 = Open    4 = Modified Closed or Open

Shape of Neck: 1 = Straight    2 = Snaky    3 = Other (Specify) \_\_\_\_\_

\* A commercial variety grown in the same trial.

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## 5. LEAF:

☐ 1 Basal Leaf Sheath (Seedling): 1 = Glabrous 2 = Pubescent  
☐ 1 Position of Flag Leaf (At Boot Stage): 1 = Drooping 2 = Upright  
☐ 2 Waxiness: 1 = Absent (Glossy) 2 = Slightly Waxy 3 = Waxy  
☐ 1 ☐ 7 mm Width (First Leaf Below Flag Leaf)  
☐ 2 ☐ 2 cm Length (First Leaf Below Flag Leaf)  
☐ 2 Anthocyanin in Leaf Sheath: 1 = Absent 2 = Present

## 6. HEAD:

MAH 10-4-07 ☒ 2 Type: 1 = Two-Rowed 2 = Six-Rowed  
☐ 1 Density: 1 = Lax 2 = Erect (Not Dense) 3 = Erect (Dense) 4 = Other (Specify) \_\_\_\_\_  
☐ 2 Shape: 1 = Tapering 2 = Strap 3 = Clavate 4 = Other (Specify) \_\_\_\_\_  
☐ 2 Waxiness 1 = Absent (Glossy) 2 = Slightly Waxy 3 = Waxy  
☐ 1 Lateral Kernels Overlap: 1 = None 2 = At Tip 3 = 1/4 – 1/2 of Head  
☐ 3 Rachis (Hair on Edge): 1 = Lacking 2 = Few 3 = Covered

## 7. GLUME:

☐ 3 Length: 1 = 1/3 of Lemma 2 = 1/2 of Lemma 3 = More than 1/2 of Lemma  
☐ 3 Hairs: 1 = None 2 = Short 3 = Long  
☐ 4 Hair Covering: 1 = None 2 = Restricted to Middle 3 = Confined to Band 4 = Completely Covered  
☐ 1 Awns: 1 = Less than Equal to Length of Glumes 2 = Equal to Length of Glumes 3 = More than Equal to Length of Glumes  
☐ 3 Awn Surface: 1 = Smooth 2 = Semi-Smooth 3 = Rough

## 8. LEMMA:

☐ 6 Awn: 1 = Awnless  
 2 = Awnlets on Central Rows, Awnless on Lateral Rows  
 3 = Short on Central Rows, Awnlets on Lateral Rows  
 4 = Short (Less than Equal to Length of Spike)  
 5 = Long (Longer than Spike)  
 6 = Hooded  
☐ 2 Awn Surface: 1 = Awnless 2 = Smooth 3 = Semi-Smooth 4 = Rough  
☐ 1 Teeth: 1 = Absent 2 = Few 3 = Numerous  
☐ 1 Hair: 1 = Absent 2 = Present  
☐ 1 Shape of Base: 1 = Depression 2 = Slight Crease 3 = Transverse Crease  
☐ 2 Raachilla Hairs: 1 = Short 2 = Long

## 9. STIGMA:

☐ 2 Hairs: 1 = Few 2 = Many

**10. SEED:**

☒ 2 Type: 1 = Naked 2 = Covered  
☒ 1 Hairs on Ventral Furrow: 1 = Absent 2 = Present  
☒ 5 Length: 1 = Short (8.0 mm)  
 2 = Short to Mid-Long (7.5 – 9.0 mm)  
 3 = Mid-Long (8.5 – 9.5 mm)  
 4 = Mid-Long to Long (9.0 – 10.5 mm)  
 5 = Long (10.0 mm)  
☒ 3 Wrinkling of Hull: 1 = Naked 2 = Slightly Wrinkled 3 = Semi-Wrinkled 4 = Wrinkled  
☒ 1 Aleurone Color: 1 = Colorless (White or Yellow) 2 = Blue  
☒ 01 Percent Abortive ☒ 46 GMS. per 1000 Seeds

**11. DISEASE:** (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Intermediate, 4 - Tolerant)

☒ 0 Septoria ☒ 1 Net Blotch ☒ 0 Spot Blotch ☒ 0 Powdery Mildew  
☒ 1 Loose Smut ☒ 0 Bacterial Blight ☒ 0 Covered Smut ☒ 0 False Loose Smut  
☒ 0 Stem Rust ☒ 0 Leaf Rust ☒ 0 Scab ☒ 3 Scald  
☒ 0 Aster Yellows Virus ☒ 0 BSMV ☒ 1 BYDV ☒ 0 Other (Specify) \_\_\_\_\_

**12. INSECT:** (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Intermediate, 4 - Tolerant)

☒ 0 Green Bug ☒ 0 English Grain Aphid ☒ 0 Chinch Bug ☒ 0 Armyworm  
☒ 0 Grasshoppers ☒ 0 Cerial Leaf Beetle ☒ 0 Other (Specify) \_\_\_\_\_  
 Hessian Fly Races { ☒ 0 GP ☒ 0 A ☒ 0 B ☒ 0 C ☒ 0 Other Specify \_\_\_\_\_  
☒ 0 D ☒ 0 E ☒ 0 F ☒ 0 G

**13. CHEMICAL:** (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Intermediate, 4 = Tolerant)

☒ 0 DDT ☒ 0 Other (Specify) \_\_\_\_\_

**14. INDICATE WHICH VAREITY MOST CLOSELY RESEMBLES THAT SUBMITTED:**

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Tillering	Baronesse	Seed Size	Baronesse
Leaf Size	Baronesse	Coleoptile Elongation	Baronesse
Leaf Color	Baronesse	Seedling Pigmentation	Baronesse
Leaf Carriage	Baronesse		

**REFERENCES:**

The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

- Wiebe, G.A., and D.A. Reid, 1961, Classifications of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Department of Agriculture.
- Reid, D.A., and G.A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Department of Agriculture, pp. 61-84.
- Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

**COLOR:** Nickerson's or any recognized color fan may be used to determine color of the described variety.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S)  WestBred, LLC	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  B2598-227	3. VARIETY NAME  Stockford
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  81 Timberline Drive Bozeman, MT 59718	5. TELEPHONE (Include area code)  (406) 587-1218	6. FAX (Include area code)  (406) 586-8247
7. PVPO NUMBER  #200700273		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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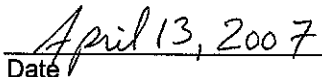
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SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705**

**EXHIBIT F  
DECLARATION REGARDING DEPOSIT**

NAME OF OWNER (S) WestBred, LLC	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 81 Timberline Drive Bozeman, MT 59718	TEMPORARY OR EXPERIMENTAL DESIGNATION BZ598-227
NAME OF OWNER REPRESENTATIVE (S) Dr. Dale R. Clark	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 81 Timberline Drive Bozeman, MT 59718	VARIETY NAME <i>Stackford</i>  FOR OFFICIAL USE ONLY  PVPO NUMBER <b>#200700273</b>

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

  
Signature

  
Date

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